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COMMERCIAL FERTILIZERS.

BY JOHN S. BURD.

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COMMERCIAL FERTILIZERS.

BY JOHN S. BURD.

The present year is the fourth of the existence of the State Fertilizer Control and of the issuance by this Station of publications dealing exclusively with commercial fertilizers. This bulletin gives the results of the inspections and analyses of the various brands found on the market during the half-year ending June 30, 1907. The tables are commended to the attention of all those proposing to purchase fertilizers, as indicating the character of the goods and the reliability of the guaranties of the various manufacturers.

It is perhaps not too much to claim that these systematic inspections have resulted in materially raising the standard of the fertilizers sold in this State. That such is the case we have been repeatedly assured by those who have had occasion to purchase fertilizers before and from time to time since the passage of the Fertilizer Control law. Confirmation of this is offered in the statistical data we are now able to give. These data comprise the deficiencies (greater than those allowed by law) reported during the past three years. The figures for the first year of the inspection 1903-04 being eliminated, because of the small number of samples examined, the necessarily desultory character of the inspection, and the fact that a number of confessedly deficient samples collected were not analyzed, owing to the promise of the manufacturers of withdrawing the goods represented from the market.

DEFICIENCIES FOUND 1904-1907.

	1904-05.	1905-06.	1906-07.
Total number of deficiencies of ingredients..	82	117	95
Total number of deficiencies possible. (Number of ingredients).....	600	913	894
Percentage of ingredients deficient.....	13.7	12.8	10.6
Number of samples deficient in valuation....	12	19	15
Number of guaranteed samples examined....	229	377	*362
Percentage of samples deficient in valuation	5.24	5.04	4.14

A constant and satisfactory decrease in the percentage of ingredients deficient and also in the percentage of samples deficient in valuation is here indicated.

*During this year 47 additional samples were examined which were either sold on a basis of Station analysis or did not come within the legal definition of a commercial fertilizer. No guaranty was required on this class of materials, so that they are not represented in this table.

SCOPE OF INSPECTION.

From January 1 to June 30, 1907, 226 samples of fertilizers and fertilizing materials have been received at the laboratory. Of this number, 15 were sent by farmers under the two-dollar fee provision, 52 were taken by inspectors from purchasers' goods upon the request of the purchasers, and 159 were taken by inspectors from goods in the hands of agents and manufacturers. On 6 samples the analysis as reported was used as a basis of settlement by mutual agreement of buyer and seller. No guaranty was required or given with goods sold under such an agreement.

FERTILIZER VALUATIONS.

The calculations of the commercial values of the fertilizers here reported are made on the so-called unit basis. Such calculations consist simply in multiplying the number of per cent of each ingredient by the price per unit and adding the products. The sum thus obtained is the commercial value per ton at the prices used. If it is desired to use such a calculation for determining the amount which should be paid for goods, or the rebate to which the buyer is entitled owing to the goods delivered being below the guaranty, it can only be satisfactorily done if a definite price per unit has been agreed upon between buyer and seller. But for the mere purpose of showing the relative values of goods to guaranties, it is not at all necessary that the prices adopted should be the exact market prices. Thus it is that the Fertilizer Control in attempting to show the relation between values found and values claimed, uses a schedule which is admittedly only an approximate average of market values. Owing to market fluctuations, differences in cost of delivery at different points, and other causes, the obtaining of true average market prices is an impossibility. But if the reader will bear in mind the true purpose of the valuations reported, these will have served their turn and he will not be led to assume that the Experiment Station is dictating the prices at which goods shall be sold.

SCHEDULE OF TRADE VALUES.*

	<i>Phosphoric Acid.</i>	
	Cents Per Pound.	Value Per Unit.
Available (water and citrate-soluble).....	6	\$1 20
Insoluble in mixed fertilizers.....	2½	0 50
In fine† bone and tankage.....	4½‡	0 90
In medium† bone and tankage.....	3½‡	0 70
In fine† Thomas phosphate powder.....	5‡	1 00
In medium† Thomas phosphate powder.....	3‡	0 60

Nitrogen.

In ammonia salts.....	18	3 60
In nitrates	16½	3 30
Organic in—		
Blood	18½	3 70
Mixed fertilizers	18	3 60
Fine† bone and tankage.....	18‡	3 60
Medium† bone and tankage.....	14‡	2 80

Potash.

From sulfate	6	1 20
From muriate	5	1 00

The following classification may be made of samples reported in this bulletin:

Complete fertilizers	120
Bone meal	39
Tankage	21
Nitrogenous superphosphate	1
Superphosphate and potash.....	2
Superphosphate	6
Dried blood	11
Nitrate of soda.....	9
Sulfate of potash.....	3
Bat guano	3
Total	215

*Owing to a considerable increase in the market price of nitrogen containing materials, the valuation of this ingredient will be increased in succeeding reports.

†Fine and medium bone are separated by a sieve with 50 meshes to the inch; fine and medium tankage by a 25-mesh sieve; and fine and medium Thomas phosphate powder by a 100-mesh sieve.

‡For the purpose of calculating comparative values an average value of 4 cents per pound for phosphoric acid and 17 cents for nitrogen is used on bone meal and tankage; an average of 4½ cents per pound is used for phosphoric acid in Thomas phosphate powder.

DEFICIENCIES.

In the analyses of the above samples, the following number of deficiencies greater than allowed by law occur:

Available phosphoric acid (total when available is not guaranteed)	22
Total nitrogen	30
Potash	11
In valuation	9

These deficiencies were found in 58 samples.

The fertilizer law allows a deficiency of 0.25 per cent in nitrogen, 0.50 per cent in potash, and 1.00 per cent in available phosphoric acid.

REPORT OF ANALYSES.*

Available phosphoric acid is not determined in bone meal, tankage, and Thomas phosphate powder, unless requested. The fineness of these materials is determined, fine and medium bone being separated by a sieve of 50 meshes to the inch; tankage by a 25-mesh sieve; and Thomas phosphate powder by a 100-mesh sieve.

Some fertilizers containing all three ingredients are rated as tankage, because they are non-acidulated tankage products with potash salts added, and do not carry a guaranty of available phosphoric acid.

Nitrogen in ammonia salts will, in some cases, be found reported when nitrogen in this form is not guaranteed. In some of such cases this form of nitrogen is produced by conversion of organic nitrogen during process of manufacture, and is not to be considered a deviation from guaranty of materials used. Guanos carry more or less nitrogen in nitrates and ammonia salts, and when any appreciable quantity of guano is used the manufacturer should take into account the fact that some nitrogen will show as nitrates and ammonia salts. The failure to take this into consideration may perhaps account for the appearance of these forms of nitrogen in some samples in which only organic nitrogen was guaranteed.

The percentage of chlorin is given when it exceeds 0.50 per cent. It is a matter of only technical interest whether chlorin present is from muriate of potash, kainit, or from common salt that may be in some of the materials used. If a manufacturer uses sulfate of potash and uses

*The laboratory work in connection with these analyses was largely carried out by Mr. Ludwig Rosenstein, to whom credit is due for his careful and conscientious work.

a tankage with it containing a large amount of chlorin, from a practical standpoint he has lowered the grade of his fertilizer just as much as if he had used muriate of potash instead of sulfate of potash. Chlorin from all other sources is as objectionable as from muriate of potash. However, if muriate of potash is found when sulfate is guaranteed, the fact will be published.

The following abbreviations are used in the tables: Bl=blood; Bn=bone; Fs=fish; G=guano; Super=superphosphate; T=tankage.

Guaranties are entered in *italics*. Deficiencies greater than allowed by law are entered in bold type.

ANALYSES AND VALUATIONS.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station
			Prices
	Agricultural Chemical Works, Los Angeles, Cal.		
1060	Bat Guano	Thos. Moffatt, Rialto	22.11
	Guaranteed .....	.....	21.20
1136	Bat Guano and Bone	J. C. Wright, Azusa	45.06
	Guaranteed .....	.....	44.50
1102	Ba Guano and Gypsum	W. H. Collins, Covina	41.41
1129	do	A. Bowring, Charter Oak	46.27
1133	do	J. Quick, Azusa	44.12
	Guaranteed .....	.....	41.80
1072	Berry	E. A. Moore, Redlands	24.84
	Guaranteed .....	.....	24.40
992	Blood	E. A. Moore, Redlands	46.92
	Guaranteed .....	.....	48.10
1103	Blood	E. T. Watson, Redlands	50.06
	Guaranteed .....	.....	49.95
994*	Bone	E. A. Moore, Redlands	31.77
	Guaranteed .....	.....	26.20
1073	Bone Flour	E. A. Moore, Redlands	29.15
	Guaranteed .....	.....	24.94
1158	Bone Flour	W. J. Rogers, Pomona	32.45
	Guaranteed .....	.....	25.68
1159*	Fine Ground Bone	W. J. Rogers, Pomona	30.61
	Guaranteed .....	.....	26.90
1168	Fine Ground Bone	G. A. Herdeg, Riverside	33.47
	Guaranteed .....	.....	29.34
1146*	Steamed Bone Meal	Sweetwater Fruit Co., Bonita	31.74
	Guaranteed .....	.....	30.34
1104	Nitrate of Soda	E. T. Watson, Redlands	51.08
1119	do	C. A. Whitaker, Covina	50.29
1160	do	W. J. Rogers, Pomona	51.02
1161	do	do	51.48
	Guaranteed .....	.....	51.15
1120	Special	C. A. Whitaker, Covina	36.55
	Guaranteed .....	.....	30.45
1029	Special	Upland Feed and Fuel Co., Upland	24.19
1162	do	W. J. Rogers, Pomona	23.52
	Guaranteed .....	.....	22.40
1037	Special Orange and Lemon	A. L. Wright, Rialto	27.53
	Guaranteed .....	.....	27.32
1049	Special Orange and Lemon	G. A. Herdeg, Riverside	24.44
	Guaranteed .....	.....	25.20
1061	Special Orange and Lemon	Thos. Moffatt, Rialto	42.79
	Guaranteed .....	.....	38.30
1169	Special Orange and Lemon	G. A. Herdeg, Riverside	24.64
	Guaranteed .....	.....	25.50
996	Special Orange and Lemon	E. A. Moore, Redlands	28.12
1181	do	Gowan & Willard, Santa Ana	26.27
	Guaranteed .....	.....	25.70
1000	Special Orange and Lemon	E. A. Moore, Redlands	23.72
1182	do	Gowan & Willard, Santa Ana	22.59
	Guaranteed .....	.....	22.40
997*	Summer "A"	E. A. Moore, Redlands	28.30
	Guaranteed .....	.....	25.90

* 994—31 per cent fine.

* 1159—40 per cent fine. Contains hoof.

* 1146—59 per cent fine.

* 997—Some hoof.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number.....	POUNDS PER HUNDRED.												Chlorin -----
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available --	Insoluble --	Total -----	Guaranteed as Derived From -----	In Nitrates --	In Ammo- nia Salts --	Organic -----	Organic Nitrogen Guaranteed as Derived From -----	Total -----	From Muriate --	From Sulfate --	Total -----	
1060			8.85				3.99		3.99			0.56	
			10.00				3.50		3.50			0.50	
1136			10.28				9.94		9.94			0.87	
			9.50				10.50		10.50			1.00	
1102			4.30				10.08		10.08			1.41	
1129			5.05				11.15		11.15			1.74	
1133			5.65				10.48		10.48			1.56	
			5.00				10.00		10.00			1.50	
1072	5.42	3.50	8.92				3.16		3.16		4.34		0.62
	6.00	2.00	8.00	Super T			2.50	Bl, Bn	2.50		6.00		
992							12.68		12.68				
							13.00		13.00				
1103							13.53		13.53				
							13.50		13.50				
994			23.32				3.88		3.88				
			20.00				3.00		3.00				
1073	15.02	14.66	29.68				1.12		1.12				
	16.00	4.00	20.00				1.10		1.10				
1158	18.90	11.32	30.22				1.21		1.21				
	16.20	4.60	20.80				1.16		1.16				
1159			21.44				3.96		3.96				
			23.00				2.50		2.50				
1168	15.72	13.58	29.30				2.30		2.30				
	11.00	18.00	29.00				2.10		2.10				
1146			29.14				2.48		2.48				
			29.00				2.10		2.10				
1104					15.48				15.48				0.76
1119					15.24				15.24				
1160					15.46				15.46				
1161					15.60				15.60				
					15.50				15.50				
1120	12.22	0.28	12.50		2.77	1.63			4.40		5.62		0.50
	10.00			Super	2.50	1.50	Bl		4.00		4.00		
1029	5.57	8.45	14.02			3.05			3.05		1.91		0.56
1162	5.80	4.41	10.21			2.94			2.94		3.14		
	6.00	4.00	10.00	Super T		3.00	Bl, Bn		3.00		2.00		
1037	5.02	5.51	10.53			3.44			3.44		5.87		
	9.00	1.00	10.00	Super T		3.30	Bl, Bn		3.30		4.00		
1049	4.40	4.53	8.93		1.34	2.68			4.02		2.35		
	6.00	3.00	9.00	Super T	1.00	3.00	Bl, Bn		4.00		2.00		
1061	10.07	4.38	14.45			7.76			7.76		0.48		0.70
	7.00	7.00	14.00	Super T		7.00	Bat G		7.00		1.00		
1169	3.28	7.04	10.32		0.54	0.41	3.23		4.18		1.92		0.58
	5.00	6.00	11.00	Super T	1.00	3.00	Bl, Bn		4.00		2.00		
996	6.58	6.00	12.58		1.09	3.03			4.12		2.26		
1181	5.32	4.21	9.53		0.91	3.28			4.19		2.47		
	6.00	4.00	10.00	Super T	1.00	3.00	Bl, Bn		4.00		2.00		
1000	5.46	6.16	11.62			3.25			3.25		1.99		0.58
1182	5.62	4.54	10.16			3.03			3.03		2.22		
	6.00	4.00	10.00	Super T		3.00	Bl, Bn		3.00		2.00		
997	5.68	5.89	11.57			1.86			1.86		9.86		
	5.00	5.00	10.00	Super T		1.50	Bl, Bn		1.50		10.00		

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
	Agricultural Chemical Works, Los Angeles, Cal.—Continued.		
998	Summer, "A"	E. A. Moore, Redlands	27.29
	Guaranteed		25.20
999	Summer, "B"	E. A. Moore, Redlands	26.21
	Guaranteed		22.10
1112	Superphosphate	W. H. Collins, Covina	24.73
	Guaranteed		24.00
1001*	Tankage	E. A. Moore, Redlands	34.81
1002*	do	F. H. Clock, Redlands	31.83
1009*	do	E. A. Moore, Redlands	35.51
1074*	do	H. H. Pettitt, Redlands	33.47
	Guaranteed		33.35
1075*	Tankage	E. A. Moore, Redlands	24.58
1170*	do	G. A. Herdeg, Riverside	26.03
	Guaranteed		25.65
993*	Tankage	E. A. Moore, Redlands	27.82
	Guaranteed		26.50
1183	Walnut	Gowan & Willard, Santa Ana	25.15
	Guaranteed		24.00
	American Agricultural Chemical Co., Los Angeles, Cal.		
1140	Fruit and Vine	W. R. Powell, Glendora	27.55
	Guaranteed		24.86
1200	Bradley's Lawn	Pacific Wood and Coal Co., San Diego	28.42
1201	Bradley's Lemon Tree	do	27.92
988	Nursery Stock	James M. Riley, Los Angeles	26.97
1038	Bradley's Nursery Stock	J. F. Monro, Upland	29.60
1048	do	L. V. W. Brown, Riverside	28.51
1059	do	Mrs. M. E. Wallace, Rialto	28.51
1084	do	E. Highland Orange Co., E. Highland	27.87
1164	do	S. J. Carroll, Whittier	30.69
1171	do	T. P. Drinkwater, Corona	28.56
1185	do	W. L. Hale, Fullerton	27.74
	Guaranteed		27.17
1202	Bradley's Nursery Stock	F. E. Dudderar, Covina	27.01
1184	do	R. H. Hille, Fernando	26.60
	Guaranteed		27.62
1030	Bradley's Orange and Lemon	J. F. Monro, Upland	27.16
1203	do	F. E. Dudderar, Covina	27.97
1204	do	Pacific Wood and Coal Co., San Diego	27.36
	Guaranteed		26.42
	Armour Fertilizer Works, Los Angeles, Cal.		
1013	Blood	I. W. Freeman, Redlands	41.88
1196	do	J. C. Boyd, Rialto	46.47
	Guaranteed		48.10
1095	Blood	A. M. Seeley, Covina	53.20
	Guaranteed		51.80
1121	Blood	John P. Linfestey, Highland	44.10
1149	do	W. B. Hinckley, Redlands	45.88
	Guaranteed		46.25
1062	Bone, Blood, and Potash	B. E. Sibley, Rialto	33.29
1096	do	C. G. Twist, Azusa	33.50
1113	do	A. M. Seeley, Covina	35.94
1122	do	John P. Linfestey, Highland	35.60
	Guaranteed		33.40

*1001—78 per cent fine.

*1075—73 per cent fine.

*1002—85 per cent fine.

*1170—73 per cent fine.

*1009—82 per cent fine.

* 993—73 per cent fine.

*1074—69 per cent fine.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	POUNDS PER HUNDRED.												Chlorine -----	
	PHOSPHORIC ACID.				NITROGEN.					POTASH.				
	Available	Insoluble	Total	Guaranteed as Derived From	In Nitrates	In Ammonia Salts	Organic	Organic Nitrogen Guaranteed as Derived From	Total	From Murate	From Sulfate	Total		
998	3.20	6.94	10.14	Super T			1.92		1.92		10.89		0.78	
999	4.00	6.00	10.00				1.50	Bl, Bn	1.50		10.00			
	9.29	4.94	14.23	Super T			1.81		1.81		5.06		0.66	
	6.00	7.00	13.00				1.50	Bl, Bn	1.50		5.00			
1112	20.61	0.37	20.98											
	20.00													
1001			13.51				7.06		7.06					
1002			14.73				6.25		6.25					
1009			9.02				8.32		8.32					
1074			14.43				6.45		6.45					
			13.00				6.75		6.75					
1075			13.14				4.14		4.14					
1170			14.99				4.13		4.13					
			14.00				4.25		4.25					
993			18.32				3.87		3.87					
			14.00				4.50		4.50					
1183	6.12	4.11	10.23		0.54		2.61		3.15		3.80			
	6.00	3.00	9.00	Super T	1.00		2.00	Bl, Bn	3.00		4.00			
1140	8.84	1.21	10.05	All samples of complete fertilizer of this company, Bn, Super.	2.04	0.36	0.86	All samples of complete fertilizer of this company, Bl, Bn, Bat G, Fs, G, T.	3.26		4.34			
	7.00	1.00	8.00		1.60	0.30	1.00		2.90		5.00			
1200	9.19	1.21	10.40		2.88	0.44	0.85		4.17		2.20			
1201	8.56	1.52	10.08		3.26	0.42	0.60		4.28		2.05			
988	8.93	1.01	9.94		2.47	0.50	1.07		4.04		1.62			
1038	9.39	0.98	10.37		3.02	0.47	1.01		4.50		2.12			
1048	8.86	1.00	9.86		2.83	0.39	1.15		4.37		2.07			
1059	8.37	1.53	9.90		3.20	0.27	0.98		4.45		2.20			
1084	9.12	0.96	10.08		2.73	0.49	1.01		4.23		1.70			
1164	10.85	1.67	12.52		2.93	0.45	0.82		4.20		2.16			0.52
1171	9.33	1.43	10.76		2.93	0.57	0.76		4.26		1.82			0.62
1185	9.48	1.02	10.50		2.47	0.27	1.26		4.00		1.83			
	9.00	1.00	10.00		2.30	0.40	1.40		4.10		1.50			
1202	8.46	1.54	10.00		1.86	0.60	1.54		4.00		1.87			
1184	7.54	2.50	10.04		1.94	0.67	1.43		4.04		1.95			0.70
	9.00	1.00	10.00	0.80	0.35	2.95	4.10		1.50					
1030	7.53	0.93	8.46	2.67	0.56	0.76	3.99		3.41			0.54		
1203	8.61	1.21	9.82	2.85	0.46	0.58	3.89		3.24					
1204	7.98	1.29	9.27	2.73	0.40	0.70	3.83		3.47					
	8.00	1.00	9.00	2.00	0.40	1.30	3.70		3.00					
1013							11.32		11.32					
1196							12.56		12.56					
							13.00		13.00					
1095							14.38		14.38					
							14.00		14.00					
1121							11.92		11.92					
1149							12.40		12.40					
							12.50		12.50					
1062	8.45	2.17	10.62			1.53	2.50		4.03		6.29			
1096	8.84	1.75	10.59			1.63	2.26		3.89		6.68		0.70	
1113	9.09	1.21	10.33		0.23	1.70	2.29		4.22		7.24		0.58	
1122	8.93	1.52	10.45		0.25	1.60	2.40		4.25		7.41		0.58	
	8.00	2.00	10.00	Bn, G, Super		1.50	2.50	Bl, Bn, G, T	4.00		7.00			

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
Armour Fertilizer Works, Los Angeles, Cal.—Continued.			
1205	Bone, Blood, and Potash	H. P. Greene, San Diego	33.80
	Guaranteed		32.80
1071*	Bone Floats	James Waters, Colton	25.92
	Guaranteed		29.40
990*	Bone Meal	R. T. Murrell, Pomona	27.94
1003*	do	W. T. Henderson, Riverside	27.89
1012*	do	I. W. Freeman, Redlands	29.75
1025*	do	G. W. Russell, Ontario	30.75
1186*	do	Santiago O. G. Association, Orange	27.52
991*	do	F. P. Gaul, San Dimas	28.46
	Guaranteed		28.65
1180*	Bone Meal	W. T. Henderson, Riverside	29.08
	Guaranteed		27.70
1097	Fruit and Vine	A. M. Seeley, Covina	30.09
	Guaranteed		27.40
1064	Fruit and Vine	J. C. Boyd, Rialto	29.56
1150	do	I. W. Freeman, Redlands	29.83
1206	do	H. P. Greene, San Diego	28.71
	Guaranteed		27.25
1050	Lawn and Garden	Blake Bros., Pasadena	23.55
	Guaranteed		24.35
1207	Lawn and Garden	H. P. Greene, San Diego	23.58
	Guaranteed		23.90
1151	Nitrate of Soda	I. W. Freeman, Redlands	52.14
1165	do	R. T. Murrell, Pomona	51.02
	Guaranteed		49.50
995	Orange Tree Manure	W. T. Henderson, Riverside	28.01
1014	do	do	27.49
1015	do	G. W. Russell, Ontario	30.26
1110	do	National Orange Co., Riverside	28.29
	Guaranteed		26.05
1128	Orange Tree Manure	E. B. Clark, Pomona	26.80
1031	do	H. A. Brimmer, San Bernardino	38.05
1065	do	J. C. Boyd, Rialto	27.80
1098	do	A. M. Seeley, Covina	27.80
	Guaranteed		26.20
1024	Pea Special	I. W. Freeman, Redlands	31.04
1152	do	do	26.19
	Guaranteed		21.30
1026	Pea Special	G. W. Russell, Ontario	25.02
	Guaranteed		25.10
1099	Special	A. M. Seeley, Covina	37.96
	Guaranteed		40.00
1100	Special	A. M. Seeley, Covina	32.78
	Guaranteed		32.20
1116	Armour's Special Fertilizer	W. H. Overholtzer, Covina	30.24
	Guaranteed		27.85
1017	Special 5-8-2	I. W. Freeman, Redlands	28.21
	Guaranteed		27.25
1063	Special 5-8-2	J. C. Boyd, Rialto	28.24
1101	do	A. M. Seeley, Covina	30.04
1187	do	Santiago O. G. Association, Orange	28.78
	Guaranteed		27.40
1166	Special 5-8-2	R. T. Murrell, Pomona	31.25
1208	do	H. P. Greene, San Diego	29.27
	Guaranteed		26.80

*1071—99 per cent fine.

*1012—65 per cent fine.

* 991—67 per cent fine.

*1003—67 per cent fine.

*1025—75 per cent fine.

*1180—65 per cent fine.

* 990—69 per cent fine.

*1186—62 per cent fine.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number.	POUNDS PER HUNDRED.												Chlorin -----
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available --	Insoluble --	Total -----	Guaranteed as Derived From -----	In Nitrates. --	In Ammo- nia Salts. --	Organic -----	Organic Nitrogen Guaranteed as Derived From -----	Total -----	From Muriate --	From Sulfate ---	Total -----	
1205	8.14	1.52	9.66	Bn. G, Super	1.88	-----	2.24	Bl, Bn, G, T	4.12	-----	7.51	-----	-----
-----	8.00	2.00	10.00	2.00	2.00	4.00	7.00						
1071	-----	-----	23.18	-----	-----	-----	2.17	-----	2.17	-----	-----	-----	-----
-----	-----	-----	24.00	-----	-----	-----	3.00	-----	3.00	-----	-----	-----	
990	-----	-----	21.92	-----	-----	-----	3.06	-----	3.06	-----	-----	-----	-----
1003	-----	-----	23.17	-----	-----	-----	2.75	-----	2.75	-----	-----	-----	
1012	-----	-----	22.74	-----	-----	-----	3.40	-----	3.40	-----	-----	-----	-----
1025	-----	-----	29.30	-----	-----	-----	2.15	-----	2.15	-----	-----	-----	
1186	-----	-----	22.92	-----	-----	-----	2.70	-----	2.70	-----	-----	-----	-----
991	-----	-----	21.72	-----	-----	-----	3.26	-----	3.26	-----	-----	-----	
-----	-----	-----	22.00	-----	-----	-----	3.25	-----	3.25	-----	-----	-----	-----
1180	-----	-----	26.24	-----	-----	-----	2.38	-----	2.38	-----	-----	-----	
-----	-----	-----	24.00	-----	-----	-----	2.50	-----	2.50	-----	-----	-----	
1097	6.85	1.28	8.13	Bn. G, Super	-----	1.07	0.96	Bl, Bn, G, T	2.03	-----	11.60	-----	0.90
-----	6.00	2.00	8.00		1.00	1.00	2.00		10.00				
1064	6.78	3.08	9.86	-----	0.85	-----	1.32	-----	2.17	-----	10.28	-----	0.60
1150	6.08	0.89	6.97	-----	1.01	-----	1.24	-----	2.25	-----	11.91	-----	
1206	6.99	0.89	7.88	Bn. G, Super	1.24	-----	1.05	Bl, Bn, T	2.29	-----	10.06	-----	-----
-----	6.00	2.00	8.00		0.50	1.50	2.00		10.00				
1050	4.66	0.74	5.40	Bn. G, Super	0.36	-----	3.28	Bl, Bn, G, T	3.64	-----	3.82	-----	-----
-----	4.00	1.00	5.00		0.50	3.50	4.00		4.00				
207	3.15	0.84	3.99	Bn. G, Super	1.66	-----	2.30	Bl, Bn, T	3.96	-----	4.68	-----	0.70
-----	4.00	1.00	5.00		2.00	2.00	4.00		4.00				
1151	-----	-----	-----	-----	15.80	-----	-----	-----	15.80	-----	-----	-----	-----
1165	-----	-----	-----	-----	15.46	-----	-----	-----	15.46	-----	-----	-----	
-----	-----	-----	-----	-----	15.00	-----	-----	-----	15.00	-----	-----	-----	
995	8.09	0.98	9.07	-----	0.56	-----	2.98	-----	3.54	-----	4.36	-----	-----
1014	9.92	2.37	11.59	-----	0.70	-----	2.22	-----	2.92	-----	4.11	-----		0.74
1015	10.79	1.68	12.47	-----	0.74	-----	2.75	-----	3.49	-----	3.44	-----	0.58
1110	9.24	1.04	10.28	Bn. G, Super	0.55	-----	2.58	Bl, Bn, G, T	3.13	-----	4.66	-----	-----
-----	8.00	2.00	10.00		0.50	2.50	3.00		4.00				
1128	7.84	2.46	10.30	-----	1.49	-----	1.62	-----	3.11	-----	4.14	-----	0.50
1031	8.64	1.71	10.35	-----	0.11	1.85	1.44	-----	3.40	-----	3.85	-----	
1065	9.11	1.74	10.85	-----	1.49	-----	1.66	-----	3.15	-----	3.88	-----	0.52
1098	8.93	1.52	10.45	Bn. G, Super	0.23	1.44	1.50	Bl, Bn, G, T	3.17	-----	4.15	-----		0.52
-----	8.00	2.00	10.00		-----	1.50	1.50		3.00	4.00	-----	4.00	-----
1024	12.34	8.41	20.75	Bn. G, Super	-----	-----	1.99	-----	1.99	-----	4.05	-----	-----
1152	10.59	2.23	12.82		-----	-----	1.83		1.83	4.81	-----	4.00	
-----	6.00	6.00	12.00	Bn. G, Super	-----	-----	1.75	Bl, Bn, T	1.75	-----	4.00	-----	-----
1026	6.60	9.34	15.94		-----	-----	2.59		2.59	2.59	-----	2.59	
-----	8.00	7.00	15.00	Bn. G, Super	-----	-----	2.50	Bl, Bn, T	2.50	-----	2.50	-----	-----
1099	-----	-----	9.12		-----	-----	6.36		6.36	7.53	-----	7.53	
-----	-----	-----	9.00	Bn. G, Super	-----	-----	7.00	Bl, Bn, T	7.00	-----	7.50	-----	-----
1100	9.85	0.80	10.65		-----	1.67	-----		2.21	3.88	-----	5.91		-----	0.66
-----	8.00	2.00	10.00	Bn. G, Super	2.00	-----	2.50	Bl, Bn, G, T	4.50	-----	5.00	-----	0.80
1116	9.58	0.61	10.19		0.68	1.06	1.74		10.31	-----	10.31	-----		0.80
-----	8.00	2.00	10.00	Bn. G, Super	0.50	-----	1.00	Bn, Bl,, T	1.50	-----	10.00	-----	0.83
1017	9.04	2.67	11.71		Bn. G, Super	0.86	-----		2.89	3.75	-----	2.32	
-----	8.00	2.00	10.00	0.50		3.50	4.00	2.00	-----	2.00	-----	-----	
1063	8.12	1.87	9.99	-----	1.49	-----	2.64	Bn. G, Bl, Bn, T	4.13	-----	2.25	-----	-----
1101	9.68	1.11	10.79	0.23	1.62	2.39	4.24		-----	2.22	-----	-----	
1187	9.40	1.24	10.64	-----	1.30	-----	2.69	-----	3.99	-----	2.10	-----	-----
-----	8.00	2.00	10.00	Bn. G, Super	-----	1.50	2.50	Bl, Bn, G, T	4.00	-----	2.00	-----	
1166	11.02	2.11	13.33		2.20	2.08	4.28		1.85	-----	1.85	-----	1.12
1208	9.11	0.55	9.66	Bn. G, Super	2.20	-----	2.15	Bl, Bn, T	4.35	-----	2.55	-----	-----
-----	8.00	2.00	10.00		2.00	2.00	4.00		2.00				

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
Armour Fertilizer Works, Los Angeles, Cal.—Continued.			
983	Sulfate of Potash	Arlington Heights Ft. Co., Riverside	59.77
984	do	do	59.98
	Sold on Station analysis.		
1066	sulfate of Potash	J. C. Boyd, Rialto	55.10
	Guaranteed		57.60
1016*	Tankage	I. W. Freeman, Redlands	28.47
	Guaranteed		29.00
1067*	Tankage	E. J. Oatman, Riverside	25.52
	Sold on Station analysis.		
1085*	Tankage	J. S. Edwards, E. Highland	31.61
1172*	do	W. T. Henderson, Riverside	31.18
	Guaranteed		30.80
1132*	Tankage	V. W. Baker, Lordsburg	27.68
	Guaranteed		27.40
California Fertilizer Works, San Francisco, Cal.			
1175	Fruit, Orange and Vine	J. H. Williams, Porterville	27.62
	Guaranteed		26.20
1004	High Grade Special Superphosphate	J. D. Farwell, Los Gatos	26.90
	Guaranteed		28.98
1167	Nursery Stock	J. P. Brown, Riverside	27.67
	Guaranteed		24.75
1083	Special	Miss R. C. Johnson, San José	30.15
	Guaranteed		28.72
1115	Special Fruit and Vine	William E. Wilson, Exeter	24.84
1118	do	do	25.21
	Guaranteed		24.15
1174	Special High Grade	J. H. Williams, Porterville	29.60
	Guaranteed		29.05
1086	Special Nursery Stock	G. A. Hanson, Upland	24.74
	Guaranteed		24.75
1137	Special Nursery Stock	J. P. Brown, Riverside	29.31
	Guaranteed		30.96
1173	Special Orange and Lemon	J. P. Brown, Riverside	26.61
	Guaranteed		26.38
1087	Special Orange Tree	G. A. Hanson, Upland	26.13
1123	do	William Osborn, Upland	25.18
	Guaranteed		26.50
Cudahy Packing Company, South Omaha, Neb.			
1111	Blood and Bone	National Orange Co., Riverside	27.53
	Guaranteed		27.90
Maier Fertilizer Co., Los Angeles, Cal.			
1039	"A A"	George Haney, Highland	25.14
	Guaranteed		25.00
1051	"A A"	Pattie & Lett Co., Riverside	25.80
	Guaranteed		25.60
1040	"A A"	George Haney, Highland	27.87
1069	do	G. H. Wheeler, Bloomington	27.90
	Guaranteed		27.60
1068	"T"	G. H. Wheeler, Bloomington	20.65
	Guaranteed		21.80

*1016—65 per cent fine.

*1067—70 per cent fine.

*1085—70 per cent fine.

*1172—73 per cent fine.

*1132—77 per cent fine.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	POUNDS PER HUNDRED.												Chlorin
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available	Insoluble	Total	Guaranteed as Derived From	In Nitrates	In Ammo- nia Salts	Organic	Organic Nitrogen Guaranteed as Derived From	Total	From Muriate	From Sulfate	Total	
983													
984											49.81		
											49.98		
1066											45.92		1.96
											48.00		
1016			16.34				4.53		4.53				
			15.00				5.00		5.00				
1067			10.18				5.11		5.11				
1085			5.22				8.07		8.07				
1172			4.85				8.03		8.03				
			4.50				8.00		8.00				
1132			12.89				5.11		5.11				
			13.00				5.00		5.00				
1175	7.29	2.93	10.22	Bn. Super	0.59	0.45	1.35		2.39		7.48		0.78
	6.00	3.50	9.50		0.50		2.00	Bl, Bn	2.50		7.00		
1004	10.98	5.77	16.75				3.01		3.01				
	13.00	3.00	16.00				3.30		3.30				
1167	8.81	5.47	14.28	Bn. Super	0.82	0.62	1.70		3.14		2.75		0.52
	7.00	3.00	10.00		0.50		3.00	Bl, Bn	3.50		2.00		
1083	6.97	7.23	14.20	Bn. Super	1.94		1.45		3.39		5.46		0.74
	6.50	7.50	14.00		0.55		2.60	Bl, Bn	3.15		5.00		
1115	6.15	3.61	9.76		0.78	0.72	1.13		2.63		5.35		0.76
1118	6.78	2.92	9.70	Bn. Super	0.76	0.74	1.29		2.79		4.84		0.92
	6.00	4.00	10.00		0.35		2.50	Bl, Bn	2.85		4.00		
1174	6.59	2.91	9.50	Bn. Super	0.63	0.22	1.32		2.17		10.51		0.58
	6.00	2.00	8.00		0.50		2.00	Bl, Bn, T	2.50		10.00		
1086	5.81	4.96	10.77		0.73	0.86	1.90		3.49		2.45		0.80
	7.00	3.00	10.00	Super	0.50		3.00	Bl, Bn	3.50		2.00		
1137	8.53	3.94	12.47		2.33		1.75		4.08		2.59		
	10.50	3.00	13.50	Super	1.00		3.10	Bl, Bn	4.10		2.00		
1173	7.15	3.57	10.72		0.82	0.22	1.68		2.72		5.58		1.40
	7.00	2.50	9.50	Super	0.25		2.75	Bl, Bn	3.00		5.00		
1087	5.85	3.88	9.73		0.67	0.78	1.12		2.57		6.77		1.04
1123	5.41	2.95	8.36		1.28		1.06		2.34		7.64		0.96
	6.50	2.50	9.00	Super	0.25		2.25	Bl, Bn	2.50		7.10		
1111	3.91	9.03	12.94				5.39		5.39				
	7.00	5.00	12.00				5.00		5.00				
1039			11.02				4.80		4.80		1.24		
			10.00	Bn, T			5.00	Bl, Bn, T	5.00		2.00		
1051			10.97				4.48		4.48		1.49		0.56
			12.00	Bn, T			4.00	Bl, Bn, T	4.00		2.00		
1040	6.85	5.92	12.77				4.34		4.34		1.62		
1069	5.93	6.95	12.88				4.54		4.54		1.56		
	8.00	4.00	12.00	Bn, T			4.00	Bl, Bn, T	4.00		2.00		
1068	5.87	6.47	12.34				3.05		3.05				
	8.00	6.00	14.00	Bn, T			3.00	Bl, Bn, T	3.00				

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
	Mapes Formula and P. G. Co., New York.		
1042	Mapes Fruit and Vine.....	J. J. Prendergast, Redlands.....	29.11
	Guaranteed.....		24.58
1041	Mapes Orange Tree Manure.....	J. J. Prendergast, Redlands.....	24.69
	Guaranteed.....		22.96
	Mountain Copper Co., San Francisco, Cal.		
1176	Mixed Fertilizer.....	J. H. Williams, Porterville.....	22.40
1193	do.....	E. W. Slade, Rialto.....	20.04
	Guaranteed.....		19.20
1088	Superphosphate.....	Sparr Fruit Co., Riverside.....	24.53
	Guaranteed.....		24.25
1141	Superphosphate.....	W. H. Jameson, Corona.....	21.70
1142	do.....	Corona Lemon Co.....	21.52
	Guaranteed.....		21.36
1143	Superphosphate.....	W. H. Jameson, Corona.....	22.16
	Guaranteed.....		21.60
	Pacific Bone, Coal and Fert. Co., San Francisco, Cal.		
1114	Citrona.....	Wm. E. Wilson, Exeter.....	29.71
	Guaranteed.....		28.65
	Pacific Guano and Fert. Co., San Francisco, Cal.		
1052	Fruit and Vine.....	F. L. Palmer, North Pomona.....	29.45
1093	do.....	A. E. Bennett, Tustin.....	30.10
	Guaranteed.....		29.26
1032	High Grade Nursery.....	A. S. Fox, Colton.....	42.99
	Guaranteed.....		42.00
986	Nursery Stock.....	J. E. Heath, Covina.....	31.32
1022	do.....	do.....	30.47
1033	do.....	A. S. Fox, Colton.....	29.69
1053	do.....	F. L. Palmer, North Pomona.....	31.14
1055	do.....	do.....	28.59
1034	do.....	H. C. Rumohr, Redlands.....	30.79
1188	do.....	A. E. Bennett, Tustin.....	30.84
	Guaranteed.....		28.80
985	Special.....	J. E. Heath, Covina.....	28.99
	Guaranteed.....		25.70
1005	Special.....	J. M. Riley, Los Angeles.....	32.04
	Guaranteed.....		29.70
1023	Special.....	J. E. Heath, Covina.....	31.31
	Guaranteed.....		27.30
1157	Special Fertilizer.....	J. M. Riley, Los Angeles.....	33.87
	Guaranteed.....		34.15
	Carroll B. Smith, Redlands.		
1109	Bat Guano.....	Wright Bros., Riverside.....	25.36
1134	do.....	D. Durkee, San Dimas.....	31.56
	Sold on Station analysis.		
1007*	Bone Meal.....	Carroll B. Smith, Redlands.....	30.39
	Guaranteed.....		24.70
1028	Bone Meal.....	Bartlett & Duley, Upland.....	29.43
	Guaranteed.....		29.18
1156*	Special.....	Carroll B. Smith, Redlands.....	36.54
	Guaranteed.....		36.60

* 1007—32 per cent fine.

* 1156—66 per cent fine.

* 1008—65 per cent fine.

* 1076—50 per cent fine.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number.....	POUNDS PER HUNDRED.												Chlorin
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available ..	Insoluble...	Total	Guaranteed as Derived From.....	In Nitrates	In Ammo- nia Salts..	Organic	Organic Nitrogen Guaranteed as Derived From	Total	From Muriate ..	From Sulfate	Total	
1042	5.57	2.82	8.39	-----	1.34	0.15	0.54	-----	2.03	-----	11.76	-----	1.04
-----	5.00	2.00	7.00	Bn, G	1.20	0.15	0.30	G	1.65	-----	10.00	-----	-----
1041	5.44	3.57	9.01	-----	2.06	0.46	0.80	-----	3.32	-----	4.19	-----	1.04
-----	6.00	2.00	8.00	Bn, G	2.40	0.15	0.75	G	3.20	-----	3.00	-----	-----
1176	14.42	0.74	15.16	-----	-----	-----	-----	-----	-----	-----	4.25	-----	-----
1193	12.51	1.03	13.54	-----	-----	-----	-----	-----	-----	-----	4.19	-----	-----
-----	12.00	0.50	12.50	-----	-----	-----	-----	-----	-----	-----	4.00	-----	-----
1088	20.44	0.38	20.82	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	20.00	0.50	20.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1141	18.08	1.42	19.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1142	17.93	1.47	19.40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	17.80	1.20	19.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1143	18.47	1.03	19.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	18.00	1.20	19.20	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1114	8.29	1.99	10.28	-----	1.71	0.06	1.29	-----	3.06	-----	6.89	-----	0.76
-----	7.00	3.00	10.00	Bn, Super	1.50	-----	1.50	Bl, Bn, T	3.00	-----	7.00	-----	-----
1052	9.25	1.63	10.88	-----	0.84	0.19	1.58	-----	2.61	-----	6.99	-----	-----
1093	8.16	1.66	9.82	-----	1.15	0.12	1.68	-----	2.95	-----	7.68	-----	0.82
-----	8.00	2.50	10.50	Bn, Super	0.85	-----	2.00	Bl, Bn	2.85	-----	7.00	-----	-----
1032	13.58	0.05	13.63	-----	-----	5.11	0.98	-----	6.09	-----	3.95	-----	0.50
-----	13.00	-----	-----	Super	-----	5.00	1.00	Fs	6.00	-----	4.00	-----	-----
986	10.92	2.03	12.95	-----	1.90	-----	2.23	-----	4.13	-----	2.41	-----	0.62
1022	11.16	2.56	13.72	-----	1.17	-----	2.63	-----	3.80	-----	2.06	-----	1.00
1033	8.95	4.19	13.14	-----	1.60	-----	2.43	-----	4.03	-----	2.35	-----	1.14
1053	11.11	2.22	13.33	-----	1.03	0.10	2.83	-----	3.96	-----	2.29	-----	-----
1055	9.05	3.28	12.33	-----	1.19	0.19	2.44	-----	3.82	-----	2.24	-----	-----
1054	10.22	3.10	13.32	-----	1.27	-----	2.88	-----	4.15	-----	2.01	-----	0.68
1188	9.98	2.68	12.66	-----	1.51	-----	2.53	-----	4.04	-----	2.86	-----	0.88
-----	9.00	3.00	12.00	Bn, Super	1.00	-----	3.00	Bl, Bn, Fs	4.00	-----	2.00	-----	-----
985	11.77	1.37	13.14	-----	-----	-----	1.41	-----	1.41	-----	7.58	-----	.56
-----	10.00	2.00	12.00	Bn, Super	-----	-----	1.00	Bl, Bn	1.00	-----	8.00	-----	-----
1005	10.56	1.77	12.33	-----	2.50	-----	.78	-----	3.28	-----	6.18	-----	.80
-----	9.00	3.00	12.00	Bn, Super	2.00	-----	1.00	Bl, Bn	3.00	-----	6.00	-----	-----
1023	11.00	2.13	13.13	-----	2.39	-----	0.89	-----	3.28	-----	4.96	-----	.72
-----	9.00	3.00	12.00	Bn, Super	2.00	-----	1.00	Bl, Bn	3.00	-----	4.00	-----	-----
1157	8.69	4.21	12.90	-----	1.54	-----	2.43	-----	3.97	-----	6.25	-----	1.20
-----	8.00	2.50	10.50	Bn, Super	1.00	-----	3.00	Bl, Bn, G, Fs	4.00	-----	6.00	-----	-----
1109	-----	-----	11.45	-----	-----	-----	-----	-----	4.32	-----	.54	-----	-----
1134	-----	-----	10.42	-----	-----	-----	-----	-----	4.95	-----	.45	-----	-----
1007	-----	-----	21.16	-----	-----	-----	3.96	-----	3.96	-----	-----	-----	-----
-----	-----	-----	16.00	-----	-----	-----	3.50	-----	3.50	-----	-----	-----	-----
1028	8.53	11.20	19.78	-----	-----	-----	3.98	-----	3.98	-----	-----	-----	-----
-----	8.00	12.63	20.63	-----	-----	-----	3.90	-----	3.90	-----	-----	-----	-----
1156	-----	-----	9.85	-----	-----	-----	8.43	-----	8.43	-----	-----	-----	-----
-----	-----	-----	7.50	-----	-----	-----	9.00	-----	9.00	-----	-----	-----	-----

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
Carroll B. Smith, Redlands—Cont.			
1008*	Tankage -----	Carroll B. Smith, Redlands -----	15.74
	Guaranteed -----		18.01
1076*	Tankage -----	G. B. Ferguson, Colton -----	31.10
	Guaranteed -----		29.26
Swift & Co., Chicago.			
1077	Blood -----	McIntyre Cement Co., Riverside -----	51.80
1138	do -----	E. L. Korthen, Riverside -----	51.50
1197	do -----	G. W. Griffiths, Jr., Covina -----	51.99
	Guaranteed -----		48.10
989*	Swift's Bone Meal -----	W. E. Gaul, San Dimas -----	29.63
	Guaranteed -----		24.39
1079*	Special Bone Meal -----	McIntyre Cement Co., Riverside -----	29.56
1198*	do -----	G. W. Griffiths, Jr., Covina -----	30.15
	Guaranteed -----		25.99
1034*	Diamond "C" -----	Bartlett & Duley, Upland -----	30.91
1154*	do -----	E. L. Korthen, Riverside -----	29.19
	Guaranteed -----		28.40
1006*	Diamond "E" -----	C. B. Smith, Redlands -----	32.21
1035*	do -----	Bartlett & Duley, Upland -----	32.81
1078*	do -----	McIntyre Cement Co., Riverside -----	32.12
1139*	do -----	E. L. Korthen, Riverside -----	31.97
1199*	do -----	G. W. Griffiths, Jr., Covina -----	33.17
	Guaranteed -----		32.00
1153	Diamond "G" -----	C. B. Smith, Redlands -----	33.15
1163*	do -----	L. C. Waite, Riverside -----	33.07
	Guaranteed -----		32.25
1144	Diamond "H" -----	E. L. Korthen, Riverside -----	31.00
	Guaranteed -----		27.39
1124	Diamond "I" -----	L. C. Waite, Riverside -----	33.16
	Guaranteed -----		34.29
Union Fertilizer Co., Los Angeles, Cal.			
1018*	Bone Meal -----	E. E. Cole, Redlands -----	27.09
	Guaranteed -----		24.40
1056*	Bone Meal -----	J. F. Jackson, Riverside -----	29.27
1070*	do -----	W. L. May, Rialto -----	29.34
1125*	do -----	H. W. Pierce, Claremont -----	30.08
	Guaranteed -----		27.29
1089*	Bone Meal -----	L. W. Freeman, Upland -----	26.20
	Guaranteed -----		25.90
1190*	Bone Meal -----	Whittier Implement Co., Whittier -----	29.00
	Guaranteed -----		24.40
1108	Dissolved Guano -----	Wright Bros., Riverside -----	24.61
	Sold on Station Analysis.		
1020	Fruiting -----	E. E. Cole, Redlands -----	26.23
	Guaranteed -----		24.17
1019	Fruiting -----	E. E. Cole, Redlands -----	24.28
1021	do -----	C. A. Miller, Highland -----	27.91
1058	do -----	J. F. Jackson, Riverside -----	29.75
1060	do -----	L. W. Freeman, Upland -----	28.35
1195	do -----	W. L. May, Rialto -----	26.20
1126	do -----	H. W. Pierce, Claremont -----	29.19
	Guaranteed -----		23.32

* 989—56 per cent fine.

* 1163—Some hoof.

* 1034—57 per cent fine.

* 1070—47 per cent fine.

* 1035—45 per cent fine.

* 1190—37 per cent fine.

* 1199—70 per cent fine.

* 1198—48 per cent fine.

* 1056—42 per cent fine.

* 1006—50 per cent fine.

* 1089—42 per cent fine.

* 1139—70 per cent fine.

* 1079—74 per cent fine.

* 1018—49 per cent fine.

* 1154—60 per cent fine.

* 1125—37 per cent fine.

* 1078—75 per cent fine.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	POUNDS PER HUNDRED.												Chlorin -----
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available	Insoluble	Total	Guaranteed as Derived From	In Nitrates	In Ammonia Salts	Organic	Organic Nitrogen Guaranteed as Derived From	Total	From Murate	From Sulfate	Total	
1008	-----	-----	4.59	-----	-----	-----	3.55	-----	3.55	-----	-----	-----	-----
-----	-----	-----	7.00	-----	-----	-----	3.65	-----	3.65	-----	-----	-----	-----
1076	-----	-----	22.00	-----	-----	-----	3.97	-----	3.97	-----	-----	-----	-----
-----	-----	-----	20.00	-----	-----	-----	3.90	-----	3.90	-----	-----	-----	-----
1077	-----	-----	-----	-----	-----	-----	14.00	-----	14.00	-----	-----	-----	-----
1138	-----	-----	-----	-----	-----	-----	13.92	-----	13.92	-----	-----	-----	-----
1197	-----	-----	-----	-----	-----	-----	14.05	-----	14.05	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	13.00	-----	13.00	-----	-----	-----	-----
989	-----	-----	30.88	-----	-----	-----	1.45	-----	1.45	-----	-----	-----	-----
-----	-----	-----	27.00	-----	-----	-----	0.82	-----	0.82	-----	-----	-----	-----
1079	-----	-----	25.78	-----	-----	-----	2.63	-----	2.63	-----	-----	-----	-----
1198	-----	-----	30.12	-----	-----	-----	1.78	-----	1.78	-----	-----	-----	-----
-----	-----	-----	29.00	-----	-----	-----	0.82	-----	0.82	-----	-----	-----	-----
1034	-----	-----	25.80	-----	-----	-----	3.02	-----	3.02	-----	-----	-----	-----
1154	-----	-----	26.46	-----	-----	-----	2.36	-----	2.36	-----	-----	-----	-----
-----	-----	-----	25.00	Bn	-----	-----	2.47	Bn	2.47	-----	-----	-----	-----
1006	-----	-----	21.46	-----	-----	-----	4.60	-----	4.60	-----	-----	-----	-----
1035	-----	-----	24.14	-----	-----	-----	3.97	-----	3.97	-----	-----	-----	-----
1078	-----	-----	20.94	-----	-----	-----	4.52	-----	4.52	-----	-----	-----	-----
1139	-----	-----	20.54	-----	-----	-----	4.57	-----	4.57	-----	-----	-----	-----
1199	-----	-----	21.10	-----	-----	-----	4.79	-----	4.79	-----	-----	-----	-----
-----	-----	-----	19.00	Bn	-----	-----	4.94	Bl, Bn, T	4.94	-----	-----	-----	-----
1153	-----	-----	21.20	-----	-----	-----	2.88	-----	2.88	-----	5.33	-----	-----
1163	-----	-----	22.04	-----	-----	-----	2.96	-----	2.96	-----	4.48	-----	-----
-----	-----	-----	19.00	Bn	-----	-----	3.25	Bn	3.25	-----	5.00	-----	-----
1144	-----	-----	17.70	-----	-----	-----	3.67	-----	3.67	-----	3.63	-----	-----
-----	-----	-----	16.00	Bn, T	-----	-----	2.88	Bn, T	2.88	-----	4.00	-----	-----
1124	-----	-----	19.74	-----	-----	-----	3.78	-----	3.78	5.66	-----	-----	4.10
-----	-----	-----	18.75	Bn	-----	-----	3.91	Bn	3.91	-----	5.00	-----	-----
1018	-----	-----	25.96	-----	-----	-----	1.86	-----	1.86	-----	-----	-----	-----
-----	-----	-----	22.00	-----	-----	-----	2.00	-----	2.00	-----	-----	-----	-----
1056	-----	-----	22.86	-----	-----	-----	3.23	-----	3.23	-----	-----	-----	-----
1070	-----	-----	23.98	-----	-----	-----	2.99	-----	2.99	-----	-----	-----	-----
1125	-----	-----	23.70	-----	-----	-----	3.27	-----	3.27	-----	-----	-----	-----
-----	-----	-----	22.00	-----	-----	-----	2.85	-----	2.85	-----	-----	-----	-----
1089	-----	-----	25.70	-----	-----	-----	1.66	-----	1.66	-----	-----	-----	-----
-----	-----	-----	26.00	-----	-----	-----	1.50	-----	1.50	-----	-----	-----	-----
1190	-----	-----	27.16	-----	-----	-----	2.14	-----	2.14	-----	-----	-----	-----
-----	-----	-----	22.00	-----	-----	-----	2.00	-----	2.00	-----	-----	-----	-----
1108	20.51	0.37	20.88	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1020	7.52	3.76	11.28	Bn, G,	1.19	0.13	1.83	-----	3.15	-----	3.61	-----	0.60
-----	7.00	2.00	9.00	Super T	0.75	0.60	1.65	Bn, G, T	3.00	-----	3.50	-----	-----
1019	8.14	2.36	10.50	-----	0.47	0.24	2.04	-----	2.75	-----	2.98	-----	0.80
1021	7.45	2.14	9.59	-----	-----	0.06	3.91	-----	3.97	-----	3.01	-----	1.10
1058	8.81	0.91	9.72	-----	0.08	0.04	4.16	-----	4.28	-----	2.80	-----	0.82
1090	7.91	1.99	9.90	-----	0.03	0.08	3.84	-----	3.95	-----	3.04	-----	0.90
1195	7.31	2.25	9.56	-----	0.63	0.27	2.72	-----	3.62	-----	2.88	-----	-----
1126	8.74	2.16	10.90	-----	1.54	0.20	2.06	-----	3.80	-----	4.50	-----	0.90
-----	7.00	1.50	8.50	Bn, G, Super T	0.75	0.60	1.65	Bn, G, T	3.00	-----	3.00	-----	-----

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	NAME AND ADDRESS OF MANUFACTURER OR DEALER, AND NAME OF BRAND.	FROM WHOM OBTAINED.	Value per Ton at Station Prices
	Union Fertilizer Company, Los Angeles, Cal.—Continued.		
1036	Fruiting	J. B. Hanna, Colton	27.24
1057	do	J. F. Jackson, Riverside	27.29
1191	do	Whittier Implement Co., Whittier	28.80
	Guaranteed		23.58
1127	Nitrate of Soda	H. W. Pierce, Claremont	52.14
1145	do	W. H. White, Glendora	51.81
1194	do	W. L. May, Rialto	52.21
	Guaranteed		49.50
1091	Nursery	I. W. Freeman, Upland	29.23
	Guaranteed		27.70
1192	Nursery	W. L. May, Rialto	29.72
	Guaranteed		27.45
1117	Special Fruiting	Steward Citrus Association, Upland	33.46
	Guaranteed		28.65
1155	Special Fruiting	E. E. Cole, Redlands	30.30
	Guaranteed		29.50
	T. C. Wallace, Riverside, Cal.		
1177	Blood	Wilcox, Rose Co., Colton	48.40
	Guaranteed		48.10
1010*	Big 2 Bone	Haight, Bethel Co., Redlands	31.75
1011*	do	do	32.20
	Guaranteed		29.40
1094*	Big 2 Bone	L. S. Flatan, Redlands	31.75
	Guaranteed		29.30
1105*	Big 2 Bone	E. T. Watson, Redlands	31.00
	Guaranteed		30.90
1178*	Pacific Big 2	Wilcox, Rose Co., Colton	28.82
	Guaranteed		30.10
1135*	Pacific Big 4	C. H. Low, Riverside	38.27
1179*	do	Wilcox, Rose Co., Colton	37.18
	Guaranteed		37.95
	Woodbridge Chemical Works, San Bernardino.		
1080	Citrus A	John Murphy, Redlands	28.45
	Guaranteed		27.17
1081	Citrus B	Factory	19.44
	Guaranteed		20.60
1046	Special Vegetable	Factory	25.79
	Guaranteed		25.90
1082	Woodbridge O. & L., No. 1	Factory	29.78
	Guaranteed		28.38
	Woodbridge Fertilizer Co., Los Angeles.		
1106	Grape Fruit	W. Nye, Highland	20.30
	Guaranteed		20.50
1045	Special	Warehouse, Colton	22.83
	Guaranteed		22.45
1092	Woodbridge Special	W. Nye, Highland	20.05
	Guaranteed		18.90

*1010—72% fine. Improperly labeled.
 *1011—69% fine. Improperly labeled.
 *1094—77% fine. Improperly labeled.
 *1105—68% fine. Improperly labeled.

*1178—73% fine. Some hoof.
 *1135—83% fine. Improperly labeled.
 *1179—83% fine. Some hoof.

ANALYSES AND VALUATIONS—Continued.

Laboratory Number	POUNDS PER HUNDRED.												Chlorin
	PHOSPHORIC ACID.				NITROGEN.					POTASH.			
	Available	Insoluble	Total	Guaranteed as Derived From	In Nitrates	In Ammonia Salts	Organic	Organic Nitrogen Guaranteed as Derived From	Total	From Murate	From Sulfate	Total	
1036	6.89	3.61	10.50	-----	1.41	0.12	1.99	-----	3.52	-----	4.09	-----	0.56
1057	7.08	3.38	10.46	-----	0.37	-----	3.50	-----	3.87	-----	2.74	-----	0.80
1191	8.29	1.85	10.14	-----	-----	0.12	3.85	-----	3.97	-----	3.03	-----	0.92
-----	7.00	2.00	9.00	Bn, G, Super T	0.75	0.60	1.65	Bn, G, T	3.00	-----	3.60	-----	-----
1127	-----	-----	-----	-----	15.80	-----	-----	-----	15.80	-----	-----	-----	-----
1145	-----	-----	-----	-----	15.70	-----	-----	-----	15.70	-----	-----	-----	-----
1194	-----	-----	-----	-----	15.82	-----	-----	-----	15.82	-----	-----	-----	-----
-----	-----	-----	-----	-----	15.00	-----	-----	-----	15.00	-----	-----	-----	-----
1091	5.73	6.30	13.03	-----	0.10	-----	4.80	-----	4.90	-----	1.33	-----	0.68
-----	6.00	2.00	8.00	Bn, G, Super T	1.00	1.00	3.00	Bn, G, T	5.00	-----	1.50	-----	-----
1192	7.29	1.82	9.11	-----	2.16	0.25	2.66	-----	5.07	-----	2.04	-----	-----
-----	6.00	1.50	7.50	Bn, G, Super T	1.00	1.00	3.00	Bn, G, T	5.00	-----	1.50	-----	-----
1117	10.82	3.92	14.74	-----	0.74	0.22	2.83	-----	3.79	-----	4.25	-----	0.54
-----	8.00	1.50	9.50	Bn, G, Super T	1.00	0.75	2.25	Bn, G, T	4.00	-----	3.50	-----	-----
1155	8.96	0.51	9.47	-----	2.29	0.71	1.22	-----	4.22	-----	3.98	-----	-----
-----	8.00	2.00	10.00	Bn, G, Super T	1.00	0.75	2.25	Bn, G, T	4.00	-----	4.00	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1177	-----	-----	-----	-----	-----	-----	13.08	-----	13.08	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	13.00	-----	13.00	-----	-----	-----	-----
1010	-----	28.76	-----	-----	-----	-----	2.57	-----	2.57	-----	-----	-----	-----
1011	-----	27.08	-----	-----	-----	-----	3.10	-----	3.10	-----	-----	-----	-----
-----	-----	28.00	-----	-----	-----	-----	2.06	-----	2.06	-----	-----	-----	-----
1094	-----	29.28	-----	-----	-----	-----	2.45	-----	2.45	-----	-----	-----	-----
-----	-----	26.00	-----	-----	-----	-----	2.50	-----	2.50	-----	-----	-----	-----
1105	-----	24.94	-----	-----	-----	-----	3.25	-----	3.25	-----	-----	-----	-----
-----	-----	28.00	-----	-----	-----	-----	2.50	-----	2.50	-----	-----	-----	-----
1178	-----	26.38	-----	-----	-----	-----	2.27	-----	2.27	-----	-----	-----	-----
-----	-----	27.00	-----	Bn	-----	-----	2.50	-----	2.50	-----	-----	-----	-----
1135	-----	5.00	-----	-----	-----	-----	10.08	-----	10.08	-----	-----	-----	-----
1179	-----	4.58	-----	-----	-----	-----	9.86	-----	9.86	-----	-----	-----	-----
-----	-----	5.50	-----	-----	-----	-----	9.87	Bn, T	9.87	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1080	4.72	7.30	12.02	Bn, G Super	1.22	-----	2.73	-----	3.95	-----	-----	4.40	2.06
-----	5.00	5.00	10.00	-----	1.75	-----	2.25	Bl, Bn, G, T	4.00	-----	4.00	-----	-----
1081	2.13	8.45	10.58	-----	-----	-----	2.52	-----	2.52	-----	-----	3.40	2.44
-----	5.00	5.00	10.00	Bn	-----	-----	2.50	Bl, Bn, G	2.50	-----	3.00	-----	-----
1046	2.81	7.09	9.90	-----	0.85	-----	2.63	-----	3.48	-----	5.50	-----	-----
-----	6.00	2.00	8.00	Bn, Super	1.00	-----	2.00	Bl, Bn, G	3.00	-----	6.00	-----	-----
1082	4.60	7.23	11.87	-----	1.01	-----	3.49	-----	4.50	-----	-----	3.96	2.26
-----	5.00	5.00	10.00	Bn	1.75	-----	2.25	Bl, Bn, G, T	4.00	2.50	2.50	5.00	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1106	-----	7.36	-----	-----	0.14	-----	1.96	-----	2.10	-----	5.77	-----	-----
-----	-----	8.00	-----	Bn, Super	1.00	-----	1.00	Bl, Bn, G	2.00	-----	6.00	-----	-----
1045	-----	11.01	-----	-----	0.50	0.04	2.04	-----	2.58	-----	4.07	-----	-----
-----	-----	11.00	-----	Bn, Super	0.50	-----	2.00	Bl, Bn, G	2.50	-----	4.00	-----	-----
1092	-----	8.76	-----	-----	0.19	-----	2.00	-----	2.19	-----	-----	4.34	1.24
-----	-----	9.00	-----	Bn, Super	1.00	-----	1.00	Bl, Bn, G	2.00	-----	4.00	-----	-----

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 1897. Resistant Vines, their Selection, Adaptation, and Grafting. Appendix to Viticultural Report for 1896.
 1898. Partial Report of Work of Agricultural Experiment Station for the years 1895-96 and 1896-97.
 1900. Report of the Agricultural Experiment Station for the year 1897-98.
 1902. Report of the Agricultural Experiment Station for 1898-1901.
 1903. Report of the Agricultural Experiment Station for 1901-1903.
 1904. Twenty-second Report of the Agricultural Experiment Station for 1903-1904.

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